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AUTOMATED LOGISTICS SUPPORT ANALYSIS TOOL
Version 1.0
——
USER'S MANUAL
Functional Requirements Risk Identification
(LSA Subtask 301.2.3)

APJ 966-604

MILITARY & SCIENTIFIC
RESEARCH

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This User's Manual supports the automation of the US Army Logistic Support Analysis (LSA) Tasks and Subtasks. It is the complete users documentation package and provides guidance for using the Automated Logistic Support Analysis Tools (ALSAT). ALSAT provides a computer assisted guide to logisticians in the performance of LSA Tasks and Subtasks as defined in MIL-STD-1388-1a. It defines, organizes, tracks, models and reports on procedures that are used to develop supportability concepts. This particular module (one of four) refers to LSA Task 301, "Functional Requirements Identification'. It fulfills the requirements of LSA Subtask 301.2.3, "Functional Requirements Risk Identification'. To effectively utilize ALSAT this manual should be used conjunctively with the Executive Module User's Manual.

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AUTOMATED LOGISTICS SUPPORT ANALYSIS TOOL
Version 1.0

———

USER'S MANUAL

Functional Requirements Risk Identification
(LSA Subtask 301.2.3)

under

CONTRACT DAAA21-86-D-0025

for

HQ US AMCCOM
INTEGRATED LOGISTIC SUPPORT OFFICE
AMSMC-LSP
ROCK ISLAND, IL

by

AMERICAN POWER JET COMPANY

RIDGEFIELD, NJ   **ARLINGTON, VA**

WILLIAMSBURG, VA   **ST. LOUIS, MO**

May 1991

PLEASE READ THIS

The Automated Logistics Support Analysis Tool (ALSAT) software consists of an Executive Module and a set of LSA Task/Subtask Modules.

To operate ALSAT, both the Executive Module and the Task/Subtask Modules you wish to use must be installed.

There is a separate User's Manual for each Task/Subtask Module. To effectively utilize ALSAT, obtain both the Executive Module User's Manual and the applicable Task/Subtask User's Manuals.

FOREWORD

This manual supports the automation of the US Army Logistic Support Analysis (LSA) Tasks and Subtasks. It is the complete user documentation package and is provided for guidance in using Automated Logistics Support Analysis Tools (ALSAT).

ALSAT provides a computer assisted guide to logisticians in the performance of Logistics Support Analysis Tasks and Subtasks as defined in MIL-STD-1388-1A. It helps to identify the optimal solutions to operation and support requirements, addressed in the Logistics Support Analysis process, during the life cycle phases of a Weapon System/End Item. If defines, organizes, tracks, models and reports on procedures that are used to develop the support concept. The objective of ALSAT is to reduce the time spent by logisticians on tedious administrative efforts of organizing, collating and formatting information developed in the analysis process.

The ALSAT is being developed by the American Power Jet (APJ) Company, under contract to HQs AMCCOM. A major goal of the project is to unify the military and contractor approach to the performance of LSA. This approach was validated by AMCCOM, and necessary adjustment made to attain a fully useful and user-friendly program.

Structured methodologies were used to develop the software logic in accordance with MIL-STD-1388-1A "Logistic Support Analysis". This module refers to LSA Task 301 "Functional Requirements Identification". It fulfills the requirements of LSA Subtask 301.2.3, "Functional Requirements Risk Identification". The structured analysis and design for this module was presented in APJ Report 966-242. APJ's task performance has been closely coordinated with AMCCOM. Their experience has been captured in APJ's logic through continued coordination and review at the working level.

The Functional Requirements Risk Identification Module is designed to utilize the output of specific prerequisite LSA tasks. They identify and categorize new system/equipment functional requirements and specify system and supportability drivers. System and supportability drivers that were previously identified as risks are assessed against the system functional requirements. Drivers that are found to pose a risk in meeting the functional requirement are tagged as a functional requirement risk. The outputs from this module are: (1) A list of the complete set of functional requirement where each is followed by its system and supportability risks. (2) The system and supportability risks where each is followed by the functional requirements that are affected by the risk.

These reports document the many to many relationships that exist between the Functional Requirements and the System/ Supportability Risks. A Functional Requirement can have many risks and a risk can affect many Functional Requirements.

This manual and its accompanying software is to be used in conjunction with the APJ ALSAT Executive User's Manual (APJ Report 966-600). The accompanying Manual is required to attain the full functionality of the ALSAT software.

The LSA software is available through HQ AMCCOM, AMSMC-LSP to Program/ILS Managers and logistic specialists responsible for doing the LSA Tasks and Subtasks. Its use reduces the time involved in completing the analysis while producing significantly enhanced results.

This work was performed by a task team for APJ: George Chernowitz, Scott Lerman, Siddhartha Chaudhuri, Kayin Tong, James Cargile, David Vaught and Gary Bill. The team was ably supported in production by Denise Montanez.

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INTRODUCTION

1.1 GENERAL

USER'S GUIDE

1.1.1 This User's Manual is designed to serve as a guide for logisticians executing computer-assisted US Army Logistic Support Analysis (LSA). This manual supports the accomplishment of a single LSA subtask and demonstrates the integration of prior LSA efforts in a fashion which produces significant management information.

1.2 SCOPE

REGULATORY REQUIRE-MENTS

1.2.1 The US Department of Army is charged with the detailed management of its material development procedures, of which Logistic Support Analysis is a part. MIL-STD-1388-1A is the document supporting Logistic Support Analysis, which in turn implements the LSA guidelines and requirements established by DOD Instructions 5000.2, "Major Systems Acquisition Procedures", and DOD Directive 5000.39, "Acquisition and Management of Integrated Logistic Support for Systems and Equipment".

US ARMY LSA

1.2.2 In response to these requirements, Head-quarters, US AMCCOM, acting as US Army agent, has initiated action to develop a computer-assisted program to aid logisticians in the accomplishment of LSA requirements. This program will insure consistency of effort and standardization of results, both during US Army in-house LSA efforts and during contractor conducted LSA. Further, computer-assisted LSA will enable the LSA manager to tie together the efforts of the diverse disciplines involved in this logistic effort.

1.3 CONTRACT REQUIREMENTS

CONTRACT REQUIRE- MENTS

1.3.1 This software is part of a coordinated HQ, US Army Armament, Munitions and Chemical Command (AMCCOM) and APJ contract effort to provide a uniform and reproducible approach to the logistic tasks addressed by MIL-STD-1388-1A "Logistic Support Analysis," and Army Regulation 700-127, "Integrated Logistic Support."

1.4 LSA REVIEW LOGIC AND ORGANIZATION

LOGIC AND ORGANIZA- TION

1.4.1 This LSA Subtask 301.2.3 module implements and expands earlier system analysis efforts. A detailed Structured System Analysis and Design, LSA Subtask 301.2.3, Functional Requirements Risk Analysis report was published as APJ 966-242, and served to guide the development effort. Through this earlier effort, the logistic analyst and software programmer were provided a detailed overview of the logic and approach to be taken during development of this module.

MIL-STD-1388- 1A REQUIRE- MENTS

1.4.2 As noted previously, MIL-STD-1388-1A serves as the basis for US Army Logistic Support Analysis efforts. The philosophy of LSA, as outlined in the document, is one of maximum flexibility, avoidance of blanket application of task requirements and the tailoring of task selection to meet new system/equipment LSA requirements. Certain LSA tasks, however, rely upon the results and output of other LSA tasks. LSA Subtask 301.2.3 is such a task, and as the following discussions will indicate, depends upon the completion of prerequisite tasks to provide a basis for Functional Requirements Risk Identification.

1.5 SOFTWARE OVERVIEW AND IMPLEMENTATION

SOFTWARE OVERVIEW

1.5.1   The Functional Requirements Risk Identification module is designed to utilize the output of specific prerequisite LSA tasks, which identified and categorized new system/equipment Functional Requirements, and to capture earlier subtasks results which identified program risks. These two distinct sources of data are then compared to assess Functional Requirement risks potential.

RISK IDENTI-FICATION OVERVIEW

1.5.2   Two paths for identifying Functional Requirement risks are available in the module and thus provide the user flexibility in accomplishment of the LSA subtask.   These two paths are schematically described below. The first path (By Functional Risk) is the primary avenue of Functional Requirement risk identification with the alternate path (By Subtask Risk Area) being an equally effective system which provides choices not available in the first path.   These two methodologies are explained in detail in Chapter 3.

The primary path is followed by first selecting a Functional Requirement and then specifying the risks for that Functional Requirement in relation to the six LSA Subtask areas. Within each of the LSA Subtask areas, several different risks can be identified. When the risks have been considered in each of the six LSA Subtask areas, the next Functional Requirement is selected and reviewed against the six LSA Subtask areas. This process continues until all Functional Requirements have been considered.

1.5.3   Schematically, the primary Functional Requirement Risk Identification path is shown below:

Functional Requirements
LSA 301.2.1
Subtask

Unique/Driver Designations
LSA 301.2.2
Subtask

Subtask Risk Areas

LSA Subtask 202.2.4
LSA Subtask 203.2.5
LSA Subtask 203.2.6
LSA Subtask 203.2.8
LSA Subtask 204.2.3
LSA Subtask 205.2.2

Functional
Requirement
Risks

O = Assessment
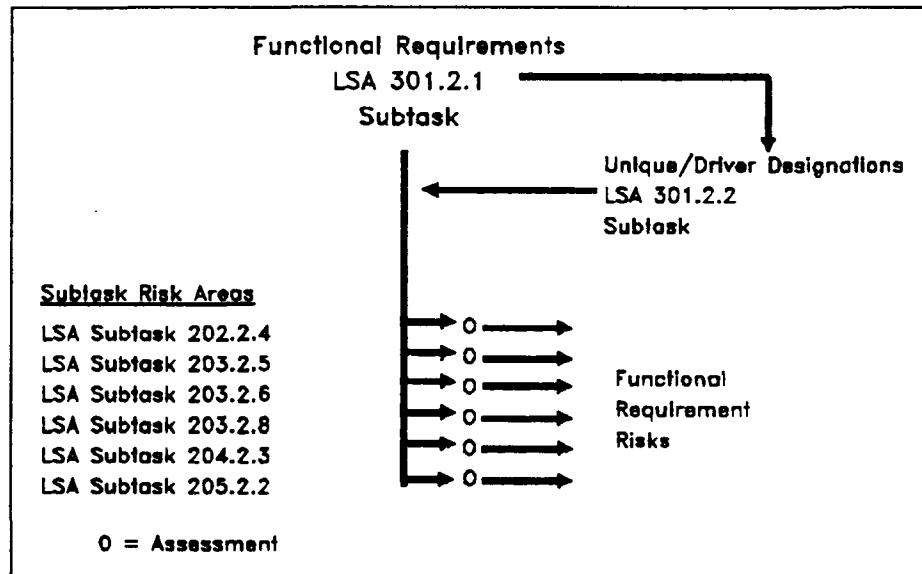
Figure 1-1   Primary Functional Requirement Risk
Identification Schematic

1.5.4 Schematically, the alternate Functional Requirement Risk Identification path is shown below:
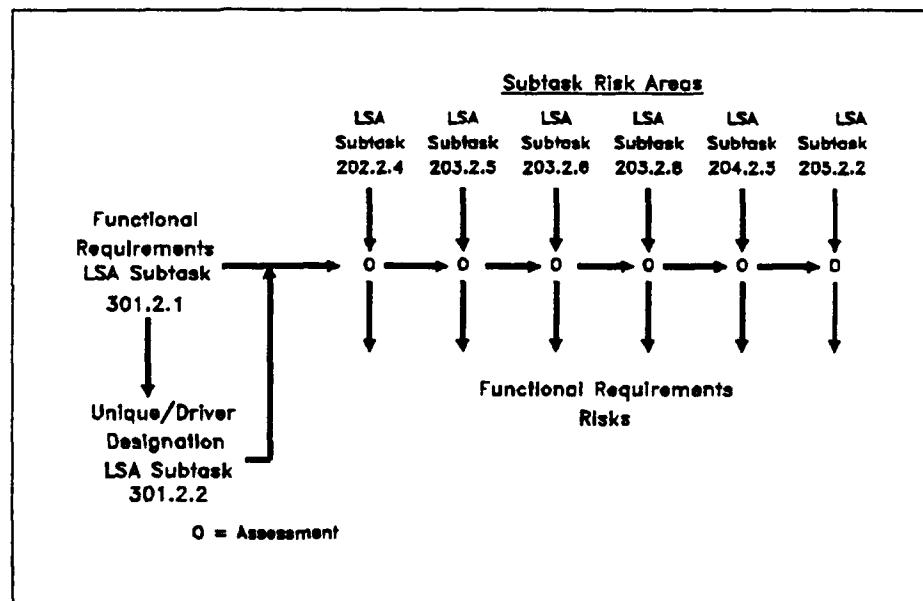
Figure 1-2 Alternate Functional Requirement Risk Identification Schematic

1.5.5 The alternative path is followed by first selecting a subtask area. Within this subtask are a set of risks. Each risk within the subtask area is selected and reviewed against all the Functional Requirements. If a risk is found to be relevant for the Functional Requirement, it is tagged with the risk.

1.5.6 A companion report generation system provides the user maximum flexibility in reporting Subtask results. The four report formats are covered in detail in Chapter 4.

NOTE

Familiarity with the Logistic Support Analysis Plan will help in accomplishing this task. It specifies which LSA subtasks will be done and includes a schedule. The data from LSA Subtask 301.2.1 and 301.2.2 is prerequisite to starting this subtask. Data from the six 200 series Subtasks shown above is also required, however, since all six may not have been scheduled and/or completed, the user must be prepared to proceed with the data available. (A blank screen will be presented if 200 series Subtask data is not available.)

1.6 SOFTWARE PROVIDED

PROGRAM

1.6.1 The Logistic Support Analysis executive module and Functional Requirement Risk Identification software is loaded on a 360K 5 1/4 inch floppy diskette, which will be provided by the Logistic Support Analysis management office. Chapter 2 of this manual provides Quick Start procedures for ease of user access to the Functional Requirement Risk Identification module.

CHAPTER 2
QUICK START

2.1 GENERAL

2.1.1   This   chapter   gives   the   Quick   Start
procedures   to   access   the   Functional   Requirement
Risk Identification module in the Logistic Support
Analysis software program.

NOTE

The   manual   assumes   that   the   software
installation procedures have been completed
and   that   the   LSA   software   is   in   a
subdirectory called LSA which is on the C:\
drive.   If the software resides in any other
drive or subdirectory, the user must make the
appropriate changes.

2.2 START UP PROCEDURES

2.2.1   To enter the LSA software:

ENTER LSA
SOFTWARE

After C:>
Type <*CD\LSA*>
Press <*Enter*>

After C:\LSA>
Type <*LSA*>
Press <*Enter*>

At the welcome screen
Press <*Any Key*> to Continue

ANALYST ID

Type in your <*Analyst ID*>
Press <*Enter*>

Type in your **<Password>**

Review Analyst information screen
Use the ARROW keys to highlight ACCEPT
Press **<Enter>**

If the Analyst information is incorrect
Use the ARROW keys to highlight EDIT
Press **<Enter>**

EQUIPMENT   Use the ARROW keys to highlight the desired
SELECTION   equipment
Press **<Enter>**

Review Equipment details
Press **<Any Key>** To Continue

If Equipment details require changes, contact the
system manager.   (The changes to the Equipment
details can be made in the **Management Module** by a
user who has a **Manager** access level.)

PERFORM   2.2.2   To perform an analysis in the Functional
ANALYSIS   Requirement Risk Identification

Use the ARROW keys to highlight OPERATIONS
Press **<Enter>**

Use the ARROW keys to highlight ANALYSIS
Press **<Enter>**

Use the ARROW keys to highlight 301
Press **<Enter>**

Use the ARROW keys to highlight 301.2.3
Press **<Enter>**

Use the ARROW keys to highlight from the main menu
PERFORM ENTIRE SUBTASK

See Chapter 3 to continue

GENERATE
REPORTS

2.2.3   To generate reports in the Functional Requirement Risk Identification module:

Use the ARROW keys to highlight OPERATIONS
Press **<Enter>**

Use the ARROW keys to highlight REPORTS
Press **<Enter>**

Use the ARROW keys to highlight 301
Press **<Enter>**

Use the ARROW keys to highlight 301.2.3
Press **<Enter>**

On the Reports menu
Use the ARROW keys to highlight the required report
Press **<Enter>**

TO SCREEN

To view the report on the screen
Select SCREEN
Press **<Enter>**

TO PRINT

To print the report
Select PRINTER
Press **<Enter>**

TO DISK

To save report to disk
Select DISK
Press **<Enter>**
Specify Path--Drive Name, Directory, Sub-Directory,
File Name, and Extension.
Example: C:\LSA\REPORTS\REP1.RPT

See Chapter 4 to continue

CHAPTER 3
ANALYSIS OPTIONS

3.1 GENERAL

3.1.1 This chapter provides the user a walk-through of the ANALYSIS options available in the Functional Requirement Risk Identification module. Step-by-step procedural instructions, which link with Chapter 2 Quick Start procedures, plus numerous screen displays, enhance user understanding.

3.1.2 Function Keys utilized in this ANALYSIS module are as described below:

Key	Function	Description
\<F1\>	HELP	The use of this key presents the HELP screens. Help is provided in two ways. The first type of help explains the purpose of the screen and the methodology involved in the completion of the screen inputs. The second type of HELP is context sensitive and is available at each input field.
\<F2\>	DELETE	This key permits the analyst to delete an obsolete, revised, or incorrect Functional Requirements or subtask risks.
\<F3\>	ADD	This key allows the user to . add to existing records.

<F5>   EDIT   This key allows the user to make changes to existing records.

<F7>   MARK/UNMARK   This key permits the user to mark or unmark one, or a series of, Functional Requirement(s) or Subtask risk(s), to indicate determination of, or deletion of, risk(s) assessments. The **<Enter>** key is used to invoke such marking/unmarkings.

<F9>   NOTES   This key presents a memo screen wherein the analyst may make notes pertaining to the task. The screen may also be used to write details of problems that may arise and hamper the timely completion of the task.

<F10>   CONTINUE   This key permits the user to continue to the next requirement.

<CNTL-   Exit to   This key combination
END>   Functional   provides the option of
        Requirements returning to the
        Screen   Functional Requirements screen at anytime when using the "By Functional Requirement' risk identification option.

<⌐>   To Select   This key stroke permits the user to select the option highlighted on the screen.

<Enter>	To Update TAGS	This key stroke permits the user to invoke **<Mark/Unmark>** procedures and TAG the appropriate Functional Requirement(s) or Subtask risk(s). A single item TAG is possible without using the **<Mark/Unmark>** key.
<↑↓>	Scroll	These Keys permit the user to move the light bar in the vertical plain.
<PgUp>	Down One Screen	This key permits the user to scroll the screen presentation down.
<PgDn>	Up One Screen	This key permits the user to scroll the screen presentation up.
<Esc>	Previous Screen	This key permits the user to return to the next preceding screen.

3.2 FUNCTIONAL REQUIREMENT RISK IDENTIFICATION OPTIONS

SUBTASK MAIN MENU

3.2.1   The three options, as shown in Figure 3-1, are presented to the user in the Perform Entire Subtask Main Menu.

```
+---------------------------------------------------+
|                                                   |
|            Perform Entire Subtask                 |
|                                                   |
|            Subtask Summary and Status             |
|                                                   |
|            Exit to the Executive                  |
|                                                   |
|        _____        |
|                                                   |
|            PERFORM ENTIRE SUBTASK                 |
|                                                   |
+---------------------------------------------------+
```
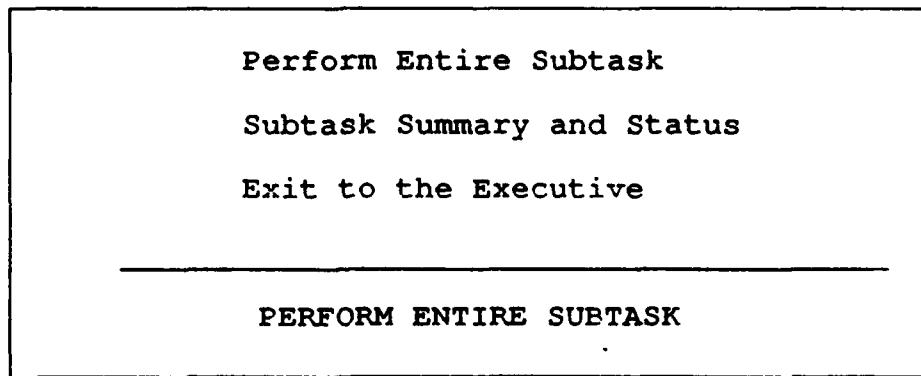
Figure 3-1   Perform Entire Subtask Menu

3.2.2   The PERFORM ENTIRE SUBTASK option accesses the Functional Requirements Risk Identification process.

3.2.3   The SUBTASK SUMMARY AND STATUS option allows a User with a management access level to input an overview of subtask status.

3.2.4   The EXIT TO THE EXECUTIVE option permits the user to leave the subtask and return to the LSA Executive Module.

3.2.5   To select, use the ARROW keys to highlight the option desired and press **<Enter>**.

3.3 RISK IDENTIFICATION METHODOLOGIES

RISK ID
OPTIONS

3.3.1   The IDENTIFY FUNCTIONAL REQUIREMENT RISKS sub-menu provides the user two risk identification options;   BY FUNCTIONAL REQUIREMENTS,   and BY SUBTASK RISK AREA, as shown in Figure 3-2.   It also provides a RETURN TO THE MAIN MENU (e.g., subtask menu) option.

3.3.2   These two Functional Requirement Risk Identification Options are alternatives that provide two points of view for the same data. A risk identified and marked in one option will appear marked in the other. The user may, after reviewing the following paragraphs, select the methodology preferred, or may desire to verify risk assessment using both methodologies.

```
Identify Functional Requirement Risks

 By Functional Requirements

 By Subtask Risk Area
   SCR  --  Supportability Constraint Risks
   BCS  --  Baseline Comparison System Drivers
   USD  --  Unique System Drivers
   CSR  --  Comparative System Risks
   SDR  --  Supportability Design Risks
   STR  --  Supportability Technical Risks

Return to the Main Menu


_____

         ADDRESS BY FUNCTIONAL REQUIREMENTS
```

Figure 3-2   Identify Functional Requirement
                 Risks

3.3.3   To select an option from the Identify
Functional Requirement Risks Screen, use the ARROW
keys to highlight it and press **<Enter>**.

NOTE

A **<φ>** symbol preceding a SUBTASK RISK AREA
indicates that Subtask Risk Area assessment
has been completed. The option to invoke a
marking occurs during the two risk
identification methodologies discussed below.

3.3.4 As noted in Chapter 1, LSA Subtasks 301.2.1,
Functional Requirement Risk Identification, and
Subtask 301.2.2, Unique and Driver Designations,
results are prerequisite to starting this Subtask.
The six Subtask Risk Areas (see Figure 3-2) results
are also required, yet all six may not have been
scheduled and/or completed. As a result, the user
may find that certain Subtask Risk Areas contain no
data.   The user must be prepared to proceed with
available data or decide to generate the required
data.

3.4 BY FUNCTIONAL REQUIREMENTS

BY FUNC-
TIONAL
REQUIREMENT

3.4.1   The   selection   of   the   BY   FUNCTIONAL
REQUIREMENTS option in paragraph 3.3 presents the
Select A Functional Requirement To Assess Screen
(see Figure 3-3).   (This listing of Functional
Requirements is the product of LSA Subtask 301.2.1,
which   identified   "all   new   system/equipment
Functional Requirements," and LSA Subtask 301.2.2,
which identified those Functional Requirements as
UNQ (U) "unique" and/or DRV (D) "drivers.")

Select a Functional Requirement to assess

UNQ	DRV	Short Title	Long Description
U	D	Mobility 1	Cross Country
U		Mobility 2	Air Transportability
	D	Mobility 3	Air Droppable
U	D	Mobility 4	Fording
		Mobility 5	Manportability
U		Firepower	Rate of Fire
	D	Sustain 1	MTBF
U	D	Sustain 2	MTTR
		Personnel	2 Man Crew
U	D	Fld Rep 1	Night Sight
U		Fld Rep 2	Thermal Sight
	D	Fld Rep 3	Baseplate
U	D	Fld Rep 4	Tube

Figure 3-3   Select a functional Requirement to
Assess

SELECTING A
FUNCTIONAL
REQUIREMENT

3.4.2 Use ARROW keys to highlight and select a Functional Requirement for assessment of potential risk and press **<Enter>**.

3.4.3 Selection of a Functional Requirement results in the Currently Assessing the Functional Requirement Screen (see Figure 3-4). Displayed on this screen is the Functional Requirement plus the first of six Subtask Risk Areas (as listed in Figure 3-2). For each Subtask Risk Area, a scrolling list of risks is displayed (if they were previously entered).

NOTE

LSA dynamics may require that Functional Requirement and Subtask Risk Area data be updated periodically. Such changes will be provided by the LSA management office. The user may enter/delete/modify this data using the keys provided. (When changes are accomplished, the system writes user and session ID to the file.)

The field available to the user for Short Title is ten characters long while the Long Description field is 253 characters long. (This field description applies equally to Functional Requirement and Subtask Risk Area data.)

**MARKING
A RISK**

3.4.4 The marks in the Risk column illustrate that the subtask risk has been identified as affecting the displayed Functional Requirement. This marking remains linked to both that Functional Requirement and that Subtask risk throughout the remainder of this analysis effort. The marking is also carried through the By Subtask Risk Area analysis option, and into the reports module, unless canceled. (If the By Subtask Risk Area option was performed first, the same rationale applies when the By Functional Requirement option is performed.)

3.4.5 Use ARROW keys to highlight a Subtask risk to assess against the Functional Requirement displayed.

**IDENTIFYING
A RISK**

3.4.6 Assess the highlighted Subtask risk against the Functional Requirement displayed on the screen. If the user perceives that the highlighted risk affects the attainment of the Functional Requirement, then identify it as a Functional Requirement Risk. Use the **<Mark/Unmark>** key to record that judgement and press **<Enter>** to invoke that marking.

```
Currently   assessing   the   "Mobility   1"
Functional Requirement

Functional Requirement Long Description:
Cross Country


_____

Supportability Constraint Risks

Risk           Number        Description
✓              SCR 1         AAAAAAAAAA
               SCR 2         BBBBBBBBBB
✓              SCR 3         CCCCCCCCCC
               SCR 4         DDDDDDDDDD
✓              SCR 5         EEEEEEEEEE
```

Figure 3-4   Currently Assessing the Functional
              Requirement

3.4.7 Use the ARROW keys to highlight another risk within the SUBTASK RISK AREA. Assess the effect of that risk against the Functional Requirement and repeat the process used in paragraph 3.4.6.

CONTINUING
TO THE NEXT
SUBTASK
RISK AREA

3.4.8 When all risks within the Subtask Risk Area have been assessed against the displayed Functional Requirements press **<Continue>**. Another Subtask Risk Area is presented for assessment. Continue the process until all risks within the new Subtask Risk Area have been assessed against the displayed Functional Requirement, as described above.

COMPLETING
A SUBTASK
RISK AREA

3.4.9 When exiting a Subtask Risk Area, a window appears asking "Mark this Subtask Risk Area as Completed," YES or NO. press <Y> for YES or <N> for NO. A YES response will cause a mark to be placed next to that Subtask Risk Area listed on the IDENTIFY FUNCTIONAL REQUIREMENT RISKS sub-menu as described in NOTE under paragraph 3.3.3. (A response of YES must be carefully considered as YES will indicate that all Subtask Area risks have been assessed against all Functional Requirements.)

NOTE

The marking of a Functional Requirement as a Functional Requirement Risk insures that a record of that marking is saved and the risk designation will be retrieved during report generation. (Unmarking will cancel a previous risk designation.)

One or more (or no) Functional Requirements may relate to a particular Supportability Constraint Risk; therefore, all perceived risks must be marked and saved to insure retrieval during report generation.

3.4.10 Continue this process until all Subtask Area risks have been assessed against the Functional Requirement displayed and press **<Continue>**. Upon answering the completion question (see paragraph 3.4.9), the user is returned to the Select a Functional Requirement to Assess screen.

ASSESSING THE NEXT FUNCTIONAL REQUIREMENT

3.4.11 Use the ARROW keys to highlight another Functional Requirement. Repeat the process of assessment described above until all Subtask risks have been assessed against all Functional Requirements.

RETURNING TO SUBTASK MENU

3.4.12 The user may return to the "Select a Functional Requirement to assess" screen (Figure 3-3) at anytime in this risk identification option by pressing **<Cntl-End>**.

3.5 BY SUBTASK RISK AREA

BY SUBTASK RISK AREA

3.5.1 If the By Subtask Risk Area option is selected in paragraph 3.3.1 (see Figure 3-2), the Supportability Constraint Risks Subtask is highlighted. This Subtask is the first of six Subtask Risk Areas to be assessed against the Function Requirements. The Subtask Risk Areas are shown below.

LSA Subtask 202.2.4 Supportability Constraint Risks (SCR)
LSA Subtask 203.2.4 Baseline Comparison System Drives (BCS)
LSA Subtask 203.2.6 Unique System Drivers (USD)
LSA Subtask 203.2.8 Comparative System Risks (CSR)
LSA Subtask 204.2.3 Supportability Design Risks (SDR)
LSA Subtask 205.2.2 Supportability Technical Risks (STR)

3.5.2 To select the SCR Subtask press **<Enter>** or
use the arrow keys to highlight and select another
subtask for risk assessment.

```
SCR Risk Area

Short Title       Long Description
SCR 1             AAAAAAAAAA
SCR 2             BBBBBBBBBB
SCR 3             CCCCCCCCCC
SCR 4             DDDDDDDDDD
SCR 5             EEEEEEEEEE
```

Figure 3-5   SCR Risk Area

STARTING
WITH
SCR

3.5.3   The Supportability Constraint Risks are
displayed (Figure 3-5) for consideration. Use the
ARROW keys to highlight a SCR Risk for assessment
and press **<Enter>**.

3.5.4 The Supportability Constraint Risk selected
for assessment is displayed along with a window
containing a scrolling list of new system/equipment
Functional Requirements, see Figure 3-6. (Refer to
paragraph 3.4.1 for an explanation of Functional
Requirement "U" and "D" annotations. Marks under
the risk column are explained in paragraph 3.4.2
and indicate previously assessed risks.)

NOTE

LSA dynamics may require that Subtask Risk Area and Functional Requirement data be updated periodically. Such changes will be provided by the LSA management office. The user may enter/delete/modify this data using the keys provided.

The field available to the user for Short Title is ten characters long while the Long Description field is 253 characters long. (This field description applies equally to LSA Subtask Risk Area and Functional Requirements data.)

3.5.5 Use the ARROW keys to highlight a Functional Requirement for assessment again the Supportability Constraint Risk displayed.

MARKING A
FUNCTIONAL
REQUIREMENT
RISK

3.5.6 Assess the selected Functional Requirement against the Supportability Constraint Risk displayed. If the user perceives that the displayed Supportability Constraint Risk will keep the system designer from achieving the Functional Requirement, then a Functional Requirement Risk must be identified. Use the **<Mark/Unmark>** key to record that judgment and press **<Enter>** to invoke the mark.

Supportability Constraint Risks
Assess SCR Risk: SCR 1
AAAAAAAAA

FUNCTIONAL REQUIREMENTS

Risk	Unq	Drv	Short Title	Long Description
✓	U	D	Mobility 1	Cross Country
✓	U		Mobility 2	Air Transportability
		D	Mobility 3	Air Droppable
✓	U	D	Mobility 4	Fording
			Mobility 5	Manportability
	U		Firepower	Rate of Fire
		D	Sustain 1	MBTF
	U	D	Sustain 2	MTTR

Figure 3-6   Supportability Constraint Risks and Functional Requirements

NOTE

The marking of a Functional Requirement as a Functional Requirement Risk insures that a record of that marking is saved and that risk designation will be retrieved during report generation.   (Unmarking will cancel a previous risk designation).

One or more (or no) Functional Requirements may relate to a particular Supportability Constraint Risk; therefore, all perceived risks must be marked and saved to insure retrieval during report generation.

3.5.7 Use the ARROW keys to highlight another Functional Requirement. Assess the Functional Requirement against the displayed supportability constraint risk.

SELECTING ANOTHER SUBTASK RISK

3.5.8 When all Functional Requirements have been assessed against the displayed Supportability Constraint Risk, press **<Continue>** to return to the SCR RISK AREA screen (see Figure 3-5) to select another SCR for assessment against the Functional Requirements.

3.5.9 When exiting to the SCR RISK AREA screen, a window appears asking "Mark this SUBTASK RISK AREA as Completed," YES or NO. press **<Y>** for YES or **<N>** for NO. A YES response will cause a mark to be placed next that Subtask Risk Area listing on the IDENTIFY FUNCTIONAL REQUIREMENT RISKS menu as described in NOTE under paragraph 3.3.3. (A response of YES must be carefully considered as YES will indicate that all of the Functional Requirements have been assessed against all SCR RISK AREA risks.)

COMPLETING A SUBTASK RISK AREA

3.5.10 Continue the process by selecting another Supportability Constraint Risk (see Figure 3-5); use the ARROW keys to highlight the risk and press **<Enter>**.

3.5.11 Repeat the process of assessing all Functional Requirements against the newly selected Supportability Constraint Risk as outlined in the preceding paragraphs.

3.5.12 Continue this process until all Supportability Constraint Risks have been selected and all Functional Requirements assessed. press **<Continue>**. Determine if the subtask risk area is complete as in paragraph 3.5.6. The user is returned to Supportability Constraint Risk screen, Figure 3-5. Press **<Esc>** to return to the Identify Functional Requirement Risks screen, Figure 3-2.

SELECTING ANOTHER SUBTASK RISK AREA

3.5.13 Use the ARROW keys to highlight another Subtask Risk Area. Continue the processes discussed above until all Functional Requirements have been assessed against all Subtask Risk Areas risks.

CHAPTER 4
REPORT GENERATION

4.1 GENERAL

4.1.1   This chapter provides the user with
information needed to generate reports in support
of this Functional Requirement Risk Identification
subtask.   Step-by-step procedural instructions,
linked to Chapter 2, Quick Start information,
insures accurate and flexible reporting of subtask
results.

4.1.2   Function Keys for this chapter are as
described in paragraph 3.1.2.

4.2 REPORT OPTIONS

REPORT   4.2.1   Four report options are presented to the
CHOICES   user in the REPORT MENU FOR LSA SUBTASK 301.2.3
                  (see Figure 4-1).

Report Menu for LSA Subtask 301.2.3

    By Functional Requirement

    For One Functional Requirement

    By Subtask Risk Area

    For One Subtask Risk Area

    Return to the Main Menu

Figure 4-1   Report Menu for LSA Subtask 301.2.3

4.2.2 Appendix D provides samples of each of the four report options available. Both "Short Title" and "Long Description" report presentations are purposely limited to 20 characters to avoid duplicating possibly voluminous data readily available in the LSA data base. Additionally, full descriptions of both Functional Requirements and Subtask risks are available from the LSA management office.

BY FUNCTIONAL REQUIREMENT

4.2.3 The BY FUNCTIONAL REQUIREMENT report option lists each Functional Requirement assessed as at risk, together with the identified Subtask risk(s) responsible for the Functional Requirement Risk designation. See sample report page D-2, Appendix D.

4.2.4 The FOR ONE FUNCTIONAL REQUIREMENT report option lists risk(s) assessed against a specific Functional Requirement selected by the user. See page D-3, Appendix D.

BY SUBTASK RISK AREA

4.2.5 The BY SUBTASK RISK AREA report option lists all Functional Requirements identified as at risk against all Subtask Risk Areas. See page D-4, Appendix D.

4.2.6 The FOR ONE SUBTASK RISK AREA option lists the Functional requirement(s) identified as at risk, against a Subtask Risk Area selected by the user. See page D-6, Appendix D.

4.3 SELECTING A REPORT FORMAT

SELECT A REPORT

4.3.1 Follow the procedures outlined in Chapter 2, Quick Start, to select the desired report from the Report Menu (refer to Figure 4-1). Use ARROW keys to highlight the desired report and press <Enter>.

4.3.2 Options FOR ONE FUNCTIONAL REQUIREMENT and FOR ONE SUBTASK RISK AREA require the user to select either a Functional Requirement or Subtask Risk Area. See Figures 4-2 and 4-3 respectively. Use the ARROW keys to highlight the desired choice in both options and press <Enter>.

Select a Functional Requirement to Report

Functional Requirement

Mobility 1	**Cross Country**
Mobility 2	**Air Transportability**
Mobility 3	**Air Droppable**
Mobility 4	**Fording**
Fld Rep 4	**Tube**

Figure 4-2   Select a Functional Requirement to
             Report options

NOTE

Only those Functional Requirements against
which risks have been identified appear in
Figure 4-2. (All non-risk Functional
Requirements are excluded.) However, if a
Subtask selected from Figure 4-3 below
results in a blank report, this will indicate
that Subtask did not precipitate a Functional
Requirement Risk.

SCR -- Supportability Constraint Risks
BCS -- Baseline Comparison System Drivers
USD -- Unique System Drivers
CSR -- Comparative System Risks
SDR -- Supportability Design Risks
STR -- Supportability Technical Risks

Return to Previous Menu

Figure 4-3   Subtask Risk Areas to Report Options

4.3.3   Select one of the three output device
options--SCREEN, PRINTER, DISK or EXIT. Use the
ARROW keys to highlight the desired option (see
Figure 4-4) and press **<Enter>**.

Report Menu for LSA Subtask 301.2.3

SCREEN   PRINTER   DISK   EXIT

REPORT FOR ALL FUNCTIONAL REQUIREMENTS
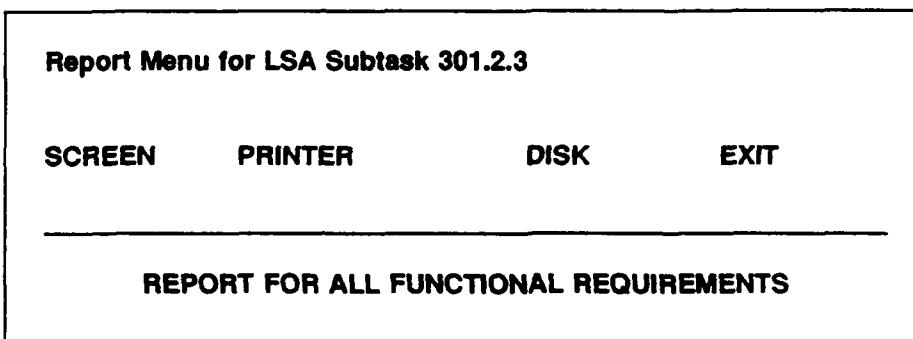
Figure 4-4   Report Presentation Options

NOTE

When selecting the DISK option you must
specify Path--Drive Name, Directory, Sub-
Directory, File Name, and Extension.

For example:
C:\LSA\REPORTS\FR1.RPT

EXIT returns user to the Report Menu, Figure 4-1.

APPENDIX A

SYSTEM REQUIREMENTS

SYSTEM REQUIREMENTS

```
PC with 640 KB RAM
20 MB HARD DISK
ONE 360 KB FLOPPY DRIVE
EGA CARD
MONOCHROME OR COLOR MONITORS

DOS VERSION 3.3

PRINTERS
        --      EPSON
        --      IBM PROPRINTER
        --      HP LASER JET
        --      TI LASER PRINTER
        --      PANASONIC
```

APPENDIX B

LIST OF REFERENCE DOCUMENTS

LIST OF REFERENCE DOCUMENTS

MIL-STD-1388-1A   Logistic Support Analysis

DOD 5000.2   Major Systems Acquisition Procedures

DOD 5000.39   Acquisition and Management of Integrated Logistic Support for Systems and Equipment

AR 700-27   Integrated Logistic Systems

AMC-P 700-4   LSA Techniques Guide

AMC-P 700-11   LSA/LSAR Review Team Guide

AMC-P 700-22   LSA Primer

APJ 966-242   Structured Analysis/Design--LSA Task 301 Functional Requirements Identification (Subtask 301.2.3 Functional Requirements Risk Analysis)

APJ 966-600   LSA Executive Manual

APPENDIX C

LIST OF REFERENCE FILES

LIST OF REFERENCE FILES

LIST OF REFERENCE FILES

EXECUTIVE FILES

```
LSA       EXE
LSAOVL    OVL
RCANLYHS  DBF
RCANLYHS  NTX
RCANLYST  DBF
RCCXHLP   NTX
RCCXHLP   DBT
RCCXHLP   DBF
RCEQHS    NTX
RCEQHS    DBF
RCEQUIP   NTX
RCEQUIP   DBF
RCLSATSK  DBF
RCLSATSK  NTX
RCMENU    DBF
RCMENU    NTX
RCPRHLP   DBF
RCPRHLP   DBT
RCPRHLP   NTX
RCPRNCOD  CTL
RCWELCOM  MEM
RCSCR31   TXT
RCPRNCTL  DBF
RCPRNLST  NTX
RCSESSN   DBF
RCSESSN   NTX
RCSTATUS  DBF
RMTSKTAG  NTX
RMTSKTAG  DBF
RSF9HLP   DBT
RSF9HLP   DBF
RSF9HLP   NTX
RSUMSTAT  DBT
RSUMSTAT  NTX
RSUMSTAT  DBF
RSUMSTHS  NTX
RSUMSTHS  DBF
RSUMSTHS  DBT
```

LIST OF REFERENCE FILES

LSA 301.2.3 FILES

```
W2NOTE    DBF
W2NOTE    DBT
WFRLIST   DBF
WRSAV     MEM
WRSKFR    NTX
WRSKXREF  DBF
WRSKXREF  NTX
WRSKXUN   NTX
W_RSKSUB  DBF
W_RSKSUB  NTX
W_SUBTSK  DBF
W_SUBTSK  NTX
HELPFILE  DBF
HELPFILE  DBT
HELPFILE  NTX
```

APPENDIX D

SAMPLE OUTPUT REPORT FORMATS

SAMPLE OUTPUT REPORT FORMATS

Page No.: 1   Report Date: 04/15/91

FUNCTIONAL REQUIREMENT RISK IDENTIFICATION
LSA SUBTASK 301.2.3

FUNCTIONAL REQUIREMENT RISKS

Analyst: CANDY K. TONG	Equipment: 81 MM MORTAR
Office:	Common Name:
	NSN: to be assigned

FUNCTIONAL REQUIREMENTS RISKS
BY FUNCTIONAL REQUIREMENTS

Functional Requirement	Identified Risk	
Mobility 1 Cross Country	BCS 1	FFFFFFFFFF
	SCR 1	AAAAAAAAAA
	SCR 3	CCCCCCCCCC
	SCR 5	EEEEEEEEEE
	SDR 5	YYYYYYYYYY
	USD 3	MMMMMMMMMM
Mobility 2 Air Transportability	BCS 2	GGGGGGGGGG
	BCS 4	IIIIIIIIII
	BCS 5	JJJJJJJJJJ
	CSR 1	PPPPPPPPPP
	CSR 3	RRRRRRRRRR
	SCR 1	AAAAAAAAAA
	SDR 1	UUUUUUUUUU
	STR 3	ACACACACAC
	STR 4	ADADADADAD
	USD 3	MMMMMMMMMM
Mobility 3 Air Droppable	BCS 4	IIIIIIIIII
	BCS 5	JJJJJJJJJJ
	CSR 4	SSSSSSSSSS
	CSR 5	TTTTTTTTTT
	SDR 1	UUUUUUUUUU
	SDR 2	VVVVVVVVVV
	SDR 3	WWWWWWWWWW
	USD 3	MMMMMMMMMM
	USD 1	KKKKKKKKKK
Mobility 4 Fording	USD 1	KKKKKKKKKK
	SCR 1	AAAAAAAAAA

****************************** END OF REPORT ******************************

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FUNCTIONAL REQUIREMENT RISK IDENTIFICATION
LSA SUBTASK 301.2.3

FUNCTIONAL REQUIREMENT RISKS

Analyst: CANDY K. TONG	Equipment: 81 MM MORTAR
Office:	Common Name:
	NSN: to be assigned

FUNCTIONAL REQUIREMENTS RISKS
BY FUNCTIONAL REQUIREMENTS

Functional Requirement   Identified Risk

Mobility 2 Air Transportability   BCS 2   GGGGGGGGGG
                                       BCS 4   IIIIIIIIII
                                       BCS 5   JJJJJJJJJJ
                                       CSR 1   PPPPPPPPPP
                                       CSR 3   RRRRRRRRRR
                                       SCR 1   AAAAAAAAAA
                                       SDR 1   UUUUUUUUUU
                                       STR 3   ACACACACAC
                                       STR 4   ADADADADAD
                                       USD 3   MMMMMMMMMM

***************************** END OF REPORT *****************************

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FUNCTIONAL REQUIREMENT RISK IDENTIFICATION
LSA SUBTASK 301.2.3

FUNCTIONAL REQUIREMENT RISKS

Analyst: CANDY K. TONG	Equipment: 81 MM MORTAR
Office:	Common Name:
	NSN: to be assigned

FUNCTIONAL REQUIREMENTS RISKS
BY RISK SOURCE

Identified Risk		Functional Requirement	
SCR 1	AAAAAAAAAA	Fld Rep 4	Tube
		Mobility 1	Cross Country
		Mobility 2	Air Transportability
		Mobility 4	Fording
SCR 3	CCCCCCCCCC	Mobility 1	Cross Country
SCR 5	EEEEEEEEEE	Mobility 1	Cross Country
BCS 1	FFFFFFFFFF	Mobility 1	Cross Country
BCS 2	GGGGGGGGGG	Fld Rep 4	Tube
		Mobility 2	Air Transportability
BCS 4	IIIIIIIIII	Mobility 2	Air Transportability
		Mobility 3	Air Droppable
BCS 5	JJJJJJJJJJ	Mobility 2	Air Transportability
		Mobility 3	Air Droppable
USD 1	KKKKKKKKKK	Mobility 3	Air Droppable
		Mobility 4	Fording
USD 3	MMMMMMMMMM	Mobility 1	Cross Country
		Mobility 2	Air Transportability
		Mobility 3	Air Droppable
CSR 1	PPPPPPPPPP	Fld Rep 4	Tube
		Mobility 2	Air Transportability
CSR 2	QQQQQQQQQQ	Fld Rep 4	Tube
CSR 3	RRRRRRRRRR	Fld Rep 4	Tube
		Mobility 2	Air Transportability

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FUNCTIONAL REQUIREMENT RISK IDENTIFICATION
LSA SUBTASK 301.2.3

FUNCTIONAL REQUIREMENT RISKS

Equipment: 81 MM MORTAR

FUNCTIONAL REQUIREMENTS RISKS
BY RISK SOURCE

Identified Risk		Functional Requirement	
CSR 4	SSSSSSSSSS	Mobility 3	Air Droppable
CSR 5	TTTTTTTTTT	Mobility 3	Air Droppable
SDR 1	UUUUUUUUU	Mobility 2	Air Transportability
		Mobility 3	Air Droppable
SDR 2	VVVVVVVVVV	Mobility 3	Air Droppable
SDR 3	WWWWWWWWW	Mobility 3	Air Droppable
SDR 5	YYYYYYYYYY	Mobility 1	Cross Country
STR 3	ACACACACAC	Mobility 2	Air Transportability
STR 4	ADADADADAD	Mobility 2	Air Transportability

***************************** END OF REPORT *****************************

Page No.: 1   Report Date: 04/26/91

FUNCTIONAL REQUIREMENT RISK IDENTIFICATION
LSA SUBTASK 301.2.3

FUNCTIONAL REQUIREMENT RISKS

Analyst: CANDY K. TONG	Equipment: 81 MM MORTAR
Office:	Common Name:
	NSN: to be assigned

FUNCTIONAL REQUIREMENTS RISKS
BY RISK SOURCE

Identified Risk   Functional Requirement

SDR 1   UUUUUUUUU   Mobility 2   Air Transportability
                                     Mobility 3   Air Droppable

SDR 2   VVVVVVVVVV   Mobility 3   Air Droppable

SDR 3   WWWWWWWW   Mobility 3   Air Droppable

SDR 5   YYYYYYYYYY   Mobility 1   Cross Country

***************************** END OF REPORT *****************************

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